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Fighter pilot retention has been an area of concern for the Navy and other services. When it comes to these talented individuals, there are many professional options outside of the Navy that often pull them away from service. This paper takes a look at current workforce challenges and how civilian industry approaches talent retention in the forms of work-life balance, compensation, and professional development.

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United States Marine Corps
Command and Staff College
Marine Corps University
2076 South Street
Marine Corps Combat Development Command
Quantico, Virginia 22134-5068

MASTER OF MILITARY STUDIES

Talent Retention for US Navy Fighter Pilots

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF MILITARY STUDIES

LCDR Daniel A. McCracken

AY 2020-21

MMS Mentor Team and Oral Defense Committee Member:

Dr. Sinan Ciddi
Approved: [Signature]
Date: 21 March 2021

MMS Mentor Team and Oral Defense Committee Member:

LtCol Misca Beter
Approved: [Signature]
Date: 21 APR 2021

*United States Marine Corps
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Marine Corps University
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Executive Summary

Title: Talent Retention for US Navy Fighter Pilots

Author: Lieutenant Commander Daniel A. McCracken, United States Navy

Thesis: While there are limitations to the benefits and privileges you can provide a service member such as an overly flexible work and leave schedule, especially leading up to or during a deployment, there are different approaches to personal and professional development that has proven fruitful in the civilian industry that the Navy and other services could focus on or adopt that could have a tangible decrease in the number of pilots leaving the service.

Discussion: The Navy's Carrier Air Wings, and the Pilots who fly the aircraft assigned to them, have been at the front of the Navy's warfighting effort during the war on terror and counter-insurgency operations. Despite the excitement of flying a multi-million dollar fighter aircraft off the front end of an aircraft carrier, a combination of the stress on families, constant moving, stalling financial incentives, post service opportunities such as flying in the airline industry, and delays in first tour pilot production have taken its toll on fleet pilot manning and retention in multiple ways. Talent retention is not solely an issue for naval aviation or the military in general, but also in the private sector. Companies that lose talent not only lose their future production, but also the investment of capital and experience provided to that member and the associated costs to replace them. My research's focus is on what the civilian sector is doing to attract and maintain talent and see what aspects of these efforts can be adopted by the military. The mission will always take a priority, but any opportunity to provide subtle quality of life improvements, or ways to increase the effectiveness of current and future compensation efforts should be looked at as there is evidence that shows that small changes could have a significant effect on retaining talent. While an argument can be made that having a man in the cockpit and current fixed wing assets could prove limiting in against a great power competition threat such as China or Russia, this paper will focus on the current fleet make-up of F/A-18E/F, E/A-18G, and F-35C pilots and the platforms they employ as other pilotless systems have yet to be fielded in great capacity and in a carrier environment. Additionally, if such technology were to be developed, we would want to have the best and brightest of our current generation of pilots and their experience to develop advanced tactics, techniques, and procedures to increase their lethality and survivability.

Conclusion: By looking at what the civilian sector is doing to recruit and maintain talent, the Navy could adapt several changes to better improve retention and morale among its current cadre of talent. These changes include modifications to current and future compensation, taking a closer look at where pilots come from and where they go post service, to include family members and co-workers, and then adaptations from leadership and work environment for the millennial generation of service members.

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Preface

Having spent the previous eight plus years flying the F/A-18F Super Hornet, I have grown to appreciate the challenges faced by the current day Naval Aviator. On multiple occasions, I have seen skilled pilots and better people elect to leave service at the immediate conclusion of their active duty service obligation. These pilots were the individuals people listened to, followed, strove to emulate, and ultimately would be a tremendous asset to training and operational demands down the road. While we will likely never reach 100 percent retention, I wanted to see what additional steps the Navy, and potentially other services, could take to better understand why these talented individuals leave and how we could encourage them to continue service. These avenues are based around civilian industry studies and research to improve quality of life through understanding the workforce, understanding factors that drive members to leave, and additional compensation modifications that could have a tangible effect on retention, thus overall fleet readiness, lethality, and survivability.

Throughout the course of my research and writing, I would like to acknowledge the following people for their support, time, and mentorship throughout this process:

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Introduction

The carrier strike group is arguably the most valuable asset the United States Navy possesses when it comes to power projection, deterrence, and great power competition. More than 70 percent of the Earth's surface is covered in water providing a mostly unimpeded pathway to almost any potential hotspot. Whether it is in the Sea of Japan, the South China Sea, the Gulf of Oman, or the Mediterranean Sea, a carrier strike group has the ability to forward project American policy by bringing the multitude of assets and capabilities inherent within itself. One of the most visible assets within the carrier strike group is the carrier air wing, which typically employs F/A-18E/F Super Hornet strike-fighter aircraft, E/A-18G Growler electronic attack aircraft, E-2C/D Hawkeye airborne early warning aircraft, and a series of MH-60S/R Seahawk helicopter squadrons. You can expect the F-35C Lightning II strike-fighter aircraft to become more common in the near future replacing portions of the F/A-18 composition within a carrier air wing.

Despite the advances in drone aircraft and automated technologies over the past two decades, the capability for the carrier air wing to execute its mission still remains in the hands and ability of the aircrew to fly these aircraft. One could argue that as we transition away from counter-insurgency operations back to great power competition with peer and near-peer adversaries that the platforms currently in a carrier air wing could be limited or ineffective for the day zero battle with a threat nation such as China. Threat weapon system's capabilities and range are constantly improving while the range the F/A-18 can fly, fight, and return is remaining constant may ultimately drive the need for improving unmanned or autonomous platforms to achieve effects on advanced defensive systems, threats, and targets found in an anti-access, area-denial environment. Admittedly, an additional benefit to unmanned or autonomous platforms is

the reduced requirement on the number of trained and proficient cockpit placed aircrew. However, the time and cost to develop a platform and the required technology to provide that capability is not easily achievable in a short time frame, specifically within a carrier strike group, so a focus on maintaining a proper number of trained and skilled pilots and aircrew should remain a priority until the next or follow on generations of warfighting systems make a person in the cockpit truly obsolete.

The United States Navy, Air Force, Army, and Marine Corps all have challenges when it comes to training and retaining the appropriate amount of pilots needed to achieve their authorized manning numbers. The Navy specifically has had upwards of a 28 percent shortfall in first tour fighter pilot manning.¹ What's more concerning is the level of manning in these positions decreased from a 22 percent shortfall in 2013 to a 26 percent shortfall in 2017 with a peak shortfall in 2015, showing an overall decreasing trend which they predicted at the time would continue through mid-2019.² While my focus is not on how to better and more efficiently train first tour pilots, these shortages in available first tour pilots and aircrew will have a direct impact on the factors that impact retention rates. There are two ways the Navy has managed this shortfall in order to meet operational demands. First of which is to extend first tour pilots past their Projected Rotation Date (PRD). The second of which brings back pilots back to an additional flying tour after their first shore-based rotation. This additional flying tour would be in contrast to a disassociated tour, or non-flying tour, prior to their selection and promotion to Lieutenant Commander and becoming a department head.

Retaining talent is not solely a military issue but is an area of concern for the commercial industry as a whole. The impact of someone leaving doesn't just leave a void in your workforce with the loss of their productivity, but also comes at a cost to recruit, train, and provide critical

experience to a replacement and all other members of the workforce that would be influenced by that person. How the military handles personnel management from a service level varies vastly from that at which it can be addressed at a unit level. On top of that, it is often restricted and dictated by the laws which have been passed and must be followed. Combine this with the operational demands on a unit and individuals; you end up with a complex problem set that may seem insurmountable. While there are limitations to the benefits and privileges you can provide a service member such as overly flexible work and leave schedules, especially leading up to or during a deployment, there are different approaches to personal and professional development that has proven fruitful in the civilian industry that the Navy and other services could focus on or adopt that could have a tangible decrease in the number of pilots leaving the service.

Current Influences on Pilot Retention

The shortage of pilots, specifically in the fighter communities of each service, has gotten more attention each year as the problem is continuing to persist. To date, the Navy has brought some changes to provide additional benefits that might encourage pilots to continue their service past the initial eight-year commitment that is required after earning their wings of gold. Starting with fiscal year 2017, the Aviation Department Head Bonus increased from 25,000 dollars a year to 35,000 dollars, a one-time 40 percent increase. They also provided an option when chosen that would allow the aviation department head bonus contract to expire at the conclusion of a pilot's flying tour, which would allow a smoother transition into a civilian flight position at a 5,000 dollar per year reduction in the annual bonus. Prior to the addition of selecting a three or five-year contract options, the previous contract was only a five-year option that would often force a member's service contract into a follow-on set of orders past their department head tour,

potentially landing them in a position that would not provide them the opportunity to remain in a current flight status. Thus the member would then either fall out of currency during his or her non-flying tour, or would have to personally fund their currency out of pocket to remain competitive for post-military flying opportunities. This option highlights the recognition of the Navy that many of its pilots are looking to transition out of military service into commercial aviation and are looking at ways to incentivize them to remain through a department head tour where they serve vital roles such as the squadron Maintenance Officer and Operations Officer.

COVID-19 and Commercial Airline Hiring Rates

COVID-19 has had a significant impact on the number of pilots being hired by commercial airlines leading to a 41 percent decrease year to date from September 2019 to September 2020.³ Expanding further on the effects of COVID-19 on the airline industry, the number of people that were screened by TSA during the month of September of 2020 was 21,488,263 compared to 66,531,258 people in September of 2019, a 67.7 percent decrease in travelers.⁴ The decrease in the number of people traveling and the number of qualified pilots being hired is in stark contrast to the picture that was being painted prior to the start of the pandemic. On June 17th, 2019, it was reported that Boeing expected that there would be a need for 800,000 pilots over the next 20 years, spurred mainly by the developing economies in the Asia-Pacific region but also by pilots retiring at the mandatory age of 65 and attrition, making it “one of the biggest challenges” going forward for the commercial airlines industry.⁵ Once society has done enough to defeat COVID-19, through the distribution of recently developed vaccines, to properly wearing masks, social distancing, and hand washing, the need for dual-engine pilots with the prerequisite amount of experience and flight hours, such as those possessed by fighter pilots, will increase. While this may not result in a surge of hiring, as the

pandemic affects regions and countries differently combined with the application of travel bans, restrictions, and public health concerns, the Navy should not expect the rate of their fighter pilots leaving service at the end of their initial service obligation to drastically change long term, but it may have the potential to increase. This pending reality was highlighted in a 2006 study done by the Center for Naval Analysis that looked into how compensation affects aircrew retention. The report noted that “a 1,000-person increase in total additional hires by major airlines would reduce jet and propeller pilot retention by 2 to 3 percentage points.”⁶

The Blended Retirement System and Potential Future Impact

For many service members, outside of getting the opportunity to serve his or her country, or by earning a path to citizenship, the military offers several benefits to compensate them for the hardships and sacrifices made by them and their families. One of the main benefits is that of the retirement pension. Up until the release of the Blended Retirement System (BRS), which took effect for all-new service members starting on January 1st, 2018, all service members who joined after September 8th, 1980 were placed in the High-36 retirement plan. This plan would provide a “Defined Benefit that equals 2.5% times the number of years of service times the average of the member’s highest 36 months of basic pay.”⁷ This would provide a full-time active duty service member who served a minimum of 20 years a retirement benefit of 50 percent of their highest 36 months of basic pay, increasing by 2.5% for each full year of service past 20 years up to 100 percent of their basic pay for 40 years of service. The BRS has adjusted the defined benefit from 2.5% to 2.0% per year of service equaling 40 percent of basic pay for 20 years of service to 80 percent for 40 years of service.⁸ While there are additional options within the BRS that affect service members who serve 20 years or more, such as a lump sum upfront for reduced monthly

payments until age 67, these options will likely have a minimal, if any, impact on a members decision to remain in service around the ten-year mark.

The added feature of this new retirement system comes in the form of the defined contribution for the BRS. Service members under this newer system receive one percent of their basic pay directly contributed into their Thrift Savings Plan (TSP), the government provided retirement account similar to a civilian 401k, with the member receiving “up to an additional 4% matching contribution from the Government to TSP beginning after 2nd year of service through 26th year of service.”⁹ With the previous system, members who left prior to 20 years of service walked away with zero government provided retirement financial assistance. They would still be able to keep any money personally placed into their TSP accounts and have it continue to build wealth or be available to withdraw, but additional contributions would not be available without finding another job as a Federal employee. With the BRS, members who plan to leave or do leave prior to 20 years, will now have access to some money in the form of a personal and government-funded retirement account at their disposal for continued growth, to roll over to another tax advantaged account, or withdraw if needed in an emergency or general spending. This change in the retirement plan for service members now provides a financial benefit to every member regardless of if they have served the minimum 20-year career, or a ten-year career such as the pilots that leave service at the end of their initial service obligation. Before this change, pilots approaching around their ten-year mark would have to make a decision to stay in for at least ten more years to receive any kind of financial support in the form of a retirement 401k plan from their time in service, or leave the service empty-handed. It is too early to tell at this point if having this financial benefit will have a tangible affect on the number of pilots that leave service, as a majority of pilots that have either opted into this option have not completed the minimum

service commitment requirements or haven't been in long enough to have the prior option available for them. The true impacts of this change from the High-36 plan to the BRS is yet to be either quantified or invalidated as a positive or negative factor on recruitment and retention, it will have a begin to have a larger impact starting in the years leading up to 2028.

Career Progression and the Active Duty Service Obligation

As mentioned earlier, the current service obligation for a Navy pilot is eight years. This timer does not start until the pilot has earned their "Wings of Gold" and completed initial flight training, usually between two and three years to complete. A typical career progression for a fighter pilot from this point would be the assignment to a Fleet Replacement Squadron (FRS), either VFA-106 at NAS Oceana in Virginia Beach, Virginia, or VFA-122 at NAS Lemoore in Lemoore, California. This initial platform training would focus on their fleet platform, the F/A-18E/F or F-35C, and will last between eight months to a year. Then the pilot would be assigned to an operational fleet squadron for a 36-month sea tour. During this time, they would focus predominantly on the tactical application of their job earning significant combat qualifications such as a division combat lead, someone who is qualified to manage and employ up to four aircraft, or potentially a forward air controller (airborne) (FAC(A)), qualification, someone who can control strikes from the air in close proximity to friendly forces.

At the conclusion of their first sea tour, approximately four years into their eight-year commitment, they are then assigned to a shore tour. These tours focus on production billets, such as being an instructor at an FRS or training command, becoming a Test Pilot School graduate, or their attendance and graduation from TOPGUN and assignment to a weapons school to train current fleet aviators. This tour is normally 33 months in length and normally brings the aviator to between six and seven years of their initial service obligation. At this point, the pilots

will start looking to make a decision on if they want to continue in service or look to pursue options in the civilian workforce. This last year or two of the initial service obligation, depending on their realized timeline, is referred to as the disassociated sea tour, or a job that normally doesn't directly involve flying such as being a shooter on an aircraft carrier, being on a carrier strike group staff, or a fires officer for a special operations unit. However, the current shortage in pilots, specifically first tour pilots, has made them a prime candidate for selection as a "Super JO" (Junior Officer) as they already have three years of fleet service, a vast majority with deployment experience, and possess all the desirable qualifications thus leading them to be sent back to the fleet to fill these gaps.

Admittedly, the option to continue flying and being in a fleet squadron is often much more desirable than any of the disassociated jobs specifically listed above, but there are several impacts this has on the members as they are making the key decision to stay or go. First, is that in order to fill the operational requirements of the fleet due to the shortfall in production of first tour pilots, the Navy is having to pull pilots from their shore tour prior to the completion of the 33 month orders. This not only increases the time at sea that a member would have to serve during the initial service commitment, but more importantly it would cut short the time the member should be able to spend in a shore rotation. This shore tour, specifically a tour that isn't filled with deployments that could last up to ten months, is a great opportunity for these members to be able to focus more time at home to utilize saved leave to visit friends and family they no longer live near or start a family without the pressure of meeting operational demands.

Second, by the completion of this Super JO tour, they have normally selected and promoted to lieutenant commander and receive orders or assignments to another fleet squadron to become a department head. Adding it together, if they were to remain on active duty and not

leave for civilian opportunities, they could potentially end up spending upwards of seven years in a deployable unit with as little as two and a half years or less ashore in a nine-year window. To make the consecutive sea tours of a Super JO tour and a department head tour necessary is the “No later than department head date.” This deadline is designed to make sure that the member receives a competitive fitness report (FITREP), called a high water FITREP, during their department head tour prior to their screening for the rank of Commander and the follow-on Command Screening Board. This ultimately eliminates any possibility for these pilots to pursue higher education opportunities such as attending a War College, earning a Master degree as well as a Joint Professional Military Education (JPME) certification. Both of these qualifications are desirable and often required for higher ranking positions in the military.

How the member spends their initial service obligation is laid out pretty clearly but can easily be altered by the needs of the Navy. The Navy could look at two avenues to increase the number of qualified pilots available for first tour positions. The first of which would expand the initial service obligation to greater than eight years. By increasing the duration one must serve, it would directly lead to an increase of pilots available to fill much-needed billets. The Air Force was the first service to require a service obligation greater than eight years with their ten-year requirement for pilots starting back in 1999.¹⁰ Starting in October 2020, the Army also increased the service obligation for its pilots to ten years as well, a 66 percent increase from the previous requirement of six years.¹¹ The Air Force, however, still has a retention problem with a sizeable shortfall in pilots, specifically fighter pilots.

The question becomes, will an increase in the length of the service commitment help reduce the Navy’s fighter pilot shortage? This question was explored in a 2018 Rand report that looked at the potential impacts on Air Force pilot manning if they were to increase the initial

service commitment even higher than ten years. Referencing the concerns about the effects of commercial aviation's pull on active-duty pilots, the report states "If changes in the civilian pilot labor market have upended the equilibrium retention levels, perhaps adjustments in the service commitments are needed to increase retention and the Air Force's return on investment."¹² In this study, they used a formula to calculate the estimated impacts of increasing the service commitments to 11, 13, and 15 years. Although they determined that the 15-year requirement reduced the gap the most stating "As expected, increasing the service commitment length improves the Total Force inventory in each case. However, all scenarios lead to a steady-state that is well short of requirements."¹³ What is not accounted for in this study is the impact that the increased service commitment would have on the Air Force's ability to recruit enough perspective pilots to commission and get through flight training to capitalize on the longer obligation.

Outside of altering the duration of the initial service obligation, the other avenue of capitalizing manpower availability during those eight years would be to alter the prescribed career progression and milestones. As mentioned above, the first sea tour is 36 months, followed by a 33-month shore tour and finished with an up to two-year disassociated sea tour which often becomes another flying tour. In December of 2019, the Navy released a NAVADMIN that described changes for enlisted member career paths called Sea Shore Flow. In the NAVADMIN it listed enlisted rates and changes, either additional or fewer months, to both the sea tour durations and shore tour durations. The changes range from as little as a month to up to a year.¹⁴ The Navy could potentially look at options like extending the length of first tour pilots from the current 36 month duration to 42 or 48 months concurrently while increasing the subsequent shore tour orders from 33 months to up 36 to 39 months as long as the pilots aren't pulled from their

shore tours prior to a minimum of 36 months in location to make up for this increased sea tour duration.

This has a couple of benefits. An immediate increase in first tour pilot availability as you essentially add an additional year of training new pilots before the need to replace the senior JO's as they leave each squadron. Prior to every deployment, there is a constant push to get the required number of pilots and qualifications to meet squadron readiness. Whether it be combat leads, division leads, or FAC(A) qualified pilots and aircrew these qualifications drive squadron training plans and operations departments. By having the duration of the first tour extend each qualification earned will now get an additional half-year to a year's value over having to train up another pilot. This would lead to a JO squadron pilot qualification turnover every four years instead of every three years, driving down training costs on qualifications.

Additionally the effect of extending the duration of their first sea tour would potentially reduce the likelihood of a Super JO tour on the backside. From the perspective of an individual who did a Super JO tour, flying in a fleet squadron is a much better opportunity than being stuck in a staff or non-flying position. However, the tour becomes much more of a transition set of orders, in that you are only there until you meet your next career milestone of selection for department head or you leave the Navy. Fellow Super JO's that were leaving service were often counting the days until they were no longer in the Navy, focusing on job opportunities on the outside and lacked the personal investment of a first tour JO in squadron development and pride. By extending both the first sea and shore tour durations, the Navy would effectively be trading a Super JO tour for an extended JO first tour. This might also provide the opportunities on the backside of the shore tour for pilots to pursue higher education or an in-residence JPME at a service War College.

The last benefit that an extended first tour would provide a pilot is a longer window of opportunity in his current location. First, by knowing you are going to be in the squadron for four years, it helps reduce the frustrations pilots experience when they get extended past the current 36 month tour length, an extension that is a common occurrence. Second, by knowing that the member will be in the same location for an additional year, combined with the year at the co-located FRS, the member could have a couple additional known years in a location, making it a better opportunity to pursue establishing a family or purchasing a house with the ability to build equity before their next move. Lastly, by being in one spot longer, you provide married service members spouses the opportunity to have better, longer job opportunities as they will not be limited by a three-year window.

Understanding the Drive to Leave

While increases in compensation for the unique skill set of launching and landing an aircraft on an aircraft carrier and how to effectively fight in both an air-to-air and air-to-surface role might help improve retention by trying to remain competitive with civilian options, monetary solutions should not be the only avenue the Navy and other services should take to improve their fighter pilot shortage. One of the first things we need to understand is why talented individuals leave an organization. For this, I will look to take a Five W's approach. Who, What, When, Where, and Why. The first two W's are already answered in the problem set. The "Who," being the fighter pilot, and the "What," is their decision to leave active duty service. "When" might seem like a simple answer as it could be easily defined as the date they either submit their paperwork to leave service or the date they received their DD-214, their certificate of release or discharge, but more could be pulled out. To answer the question "Where," the Navy has already taken steps to better answer this question but we will look at how

the Navy could take it a step or two further. All the previous four W's lead into the main issue at hand and that is "Why" these fighter pilots have made the decision to leave service.

Understanding why someone is leaving is a challenging proposition in that there are a multitude of factors that could drive someone to this decision and finding out which factors had the largest impact could potentially be key in identifying low-cost solutions to improve retention. Starting in fiscal year 2020, under the recommendation from the Government Accountability Office's report titled *Collecting Additional Data Could Enhance Pilot Retention Efforts*, the Navy started seeking information on the type of jobs departing pilots and aircrew were moving on to and if the increasing demand for commercial pilots drove them to make the jump.¹⁵ This goes in line with Anthon Kotz and Mark Bollino's writing on employee retention recommending that by examining the organizations that people join after leaving their previous organization, you can identify traits in those companies that might be able to be incorporated to improve retention.¹⁶

When is the Decision to Leave Made?

One aspect of the decision to leave service that should be looked at is "When" that decision was made. What stage of the pilot's career were they in when they decided that they were not going to serve past their initial commitment. Was it before they even signed up, possibly wanting to leverage the training, experience, and flight hours provided through military service to ensure they had the requirements to transition to another profession? Was it during their first sea tour, where they were exposed to the realities and demands of a work-up cycle into deployments balancing the responsibilities of flying tactically and managing multiple "ground jobs" (non-flying related)? Or was it during their shore tour, where getting stationed at a training command could lead yet still to longer days, working on weekends, and weeks at a time spent

away from home on a detachment when a shore tour is touted to be at a much easier pace to spend time with friends and family? Understanding when a pilot makes that decision to leave service could provide insight into how the Navy should address potential changes or incentives to encourage the service member to continue past their initial obligation.

However, the information that is provided in these exit surveys is only as accurate and honest as the individual answering is willing to provide. An additional way of getting insight that they are not willing to provide is to interview other service members that were closest to the departing member.¹⁷ This can provide a different perspective as to what might have bothered the departing member from someone who likely has a more personal relationship and has been with them through the decision to leave. It will also be a valuable opportunity to hear these current non-departing member's concerns providing them an avenue to voice certain thoughts or issues that are of importance to them.¹⁸ Additionally, interviewing the spouse of the pilot leaving might provide additional information that might have influenced their decision.

Compensation and Leverage

A popular conversation on how to retain pilots, as eluded to earlier, is in compensation. Daniel Kahneman and Angus Deaton reported in a report titled *High income improves evaluation of life but not emotional well-being*, that there are tangible benefits to the worker with an increase in compensation, specifically with how they feel about their life. It does note that there was a limit to an individual's well-being at approximately \$75,000 dollars.¹⁹ Adjust this for the approximate inflation over the last ten years and the equivalent value is approximately \$90,000.²⁰ What this highlights is the timing of when additional compensation is offered can

improve both the evaluation of life and the emotional well-being of a member and might have an increase in retention in the form of bonuses for extended service contracts. Similar to how the Post-9/11 GI Bill offers the ability to transfer these benefits to a family member for an additional four years of service after you have completed at least six years.²¹

While compensation isn't the one size fits all solution, the 1970 Gates Commission states "Increasing military pay in the first term of service will increase the attractiveness of military service more to those who have higher civilian earnings potential than those who have lower civilian potential."²² This sentiment is echoed in a Center for Naval Analyses study by Michael Hansen and Michael Moskowitz that found "that a 1-percent increase in basic pay leads to a 0.55-percent increase in pilot retention. Furthermore, a \$1,000-per-year increase in ACCP is associated with an increase in the retention rate of 0.6 percentage point."²³ These studies provide a direct counter to the decrease in pilot retention based upon the number of civilian pilots being hired. We noted earlier that as an increase in hiring by airlines reduced pilot retention up two to three percent, this study shows something like a one percent increase in base pay combined with a \$1,000 increase in the form of a bonus could offset over or up to half of that potential loss. There is room for growth not only in direct compensation but with the new BRS retirement system that incorporates a government match of contributions. One possibility is to increase the government match by a couple percentage points, say from the current max of four percent to six or eight percent. While this would require the member to contribute more to their TSP accounts, it does provide additional compensation in the form of retirement savings. This would potentially turn the BRS from a reason that financially supports a pilot's decision to leave, to a reason to continue their service, even if it is only for their next milestone tour, a department head tour.

Let's look at the numbers and how the Navy could potentially capitalize or leverage on these options. First, what we will focus on is base pay for a service member that is appropriate for their rank and time in service. A pilot who is leaving at the end of his eight year commitment is often a lieutenant commander with over ten years of service. According to the 2021 Monthly Rates of Basic Pay, this member would be receiving \$7,684.20 a month in compensation, or \$92,210.40 annually.²⁴ That is directly in line with the limit of the inflation-adjusted pay rate we discussed above as having a direct contribution to improving emotional well-being and evaluation of life. Add in additional benefits like Basic Allowance for Housing (BAH) depending on where the member is stationed, Basic Allowance for Subsistence (BAS), and flight pay and you can see that a pilot approaching the decision point to remain or leave, is well above the line for benefiting evaluation of life and emotional well-being. Concurrently, these members have had more time to better establish themselves financially in the form of building equity in their house or rental properties, or paying off or funding college expenses for themselves or family members. A second point in a pilot's career is at the end of their first sea tour, approximately five to six years of service. For this conversation, we will reference pay based on greater than six years. This would provide the member with a basic pay total of \$6,311.70 a month, or \$75,740.40 annually.²⁵ This places the member below the inflation-adjusted pay rate and shows potential benefits from increased or aptly timed bonus contracts when compared to the longer-tenured pilot with ten years of experience.

As of fiscal year 2021, the first bonus opportunity for pilots, the Aviation Department Head Bonus discussed earlier, has an eligibility requirement of being selected for promotion to lieutenant commander and have not submitted a "don't pick me" letter for the current year Aviation Department Head Selection Board.²⁶ This requirement makes the only members

eligible for this promotion are at the lowest compensation rate of O-3 (Lieutenant) with greater than eight years of service, which has them within a year of earning the larger of the two sums state above of \$92,210.40 annually not including BAH, BAS, and flight pay. When it comes to the financial considerations for a member to sign this bonus or pursue a civilian job opportunity, they are generally in a much higher compensation rate than they were four years earlier.

Comparing these two phases of a pilot's service obligation, a Lieutenant Commander with ten years of service makes 21.7% more than a Lieutenant with 6 years of service in base pay alone with an additional increase in pay for BAH and flight pay. As a percentage of base pay, the bonus when offered to the junior of the two timelines comes out to a 46.2 percent pay increase compared to a 37.9 percent increase for the senior member. Offering the department head bonus up to an earlier stage in a pilot's career will allow him to leverage time when it comes to paying off debts, buying a home, or investing in a retirement or college savings plan. Additionally, by offering the bonus at an earlier point in their career, they are potentially impacting when a member is making their decision to stay or leave. The concern here would be that the member would fail to screen for lieutenant commander and or department head, thus being a wasted investment. This would drive the decision making down to squadron leadership to determine if they feel that member is someone they would recommend for a department head position, which is a process that they are likely doing in the annual FITREPs. However, the cost to train a new pilot from zero experience to fully combat qualified is much more than a couple of failed investments in non-advancing pilots who accepted the bonus.

Generational Changes in the Force

The generational aspect of service members is changing as we start to see more and more millennials within the pilot ranks. Gerard Nathan says that "Millennials tend to prefer a sense of

purpose from their jobs over financial compensation and value work-life balance, social involvement and a sense of well-being at work.”²⁷ This work-life balance focus would go against the concept that increased compensation would be the best way of encouraging retention of fighter pilots. José-Luis Rodríguez-Sánchez would agree with this statement saying “societies are increasingly concerned about work-life balance, personal well-being, and job satisfaction.”²⁸ However, Andrew Chamberlain found that when paid at a higher level, individuals placed work-life balance as a lower priority as the additional compensation would be an acceptable replacement for sacrificing their personal time, partially contradicting the importance of work-life balance.²⁹

The previous authors point towards the fact that individuals are caring more about the personal quality aspect of their lives. Knowing that men make up the extreme majority of the fighter pilot community, it is important to understand these cultural changes and some factors that might impact retention. Daisy Dowling says “[M]en, historically less engaged in childcare and other child-related activities, are becoming increasingly committed to it,” further stating, “[T]oday’s dads overwhelmingly report wanting to be present and on-the-job at home. They’re becoming increasingly willing to make serious career choices around it, too.”³⁰ Combine this with the fact that more and more families are becoming dual-income families, which adds additional stress on the members. A US Chamber of Commerce Foundation study recently found that 80 percent of “military spouses report that the employment search process has created stress between them and their active duty spouse.”³¹ By the time a pilot arrives at his first shore tour, they have had the possibility of five different locations throughout the training process and first sea tour. This study supports the idea that having fewer permanent change of stations, and

longer tour lengths discussed earlier, could reduce the stress on a family as they progress through the earlier stages of their career.

Professional Development and Relations

The Navy should also look at how it handles professional relationships within each unit as the better the relationship between a member and their leader leads to improved satisfaction long term.³² If you want to further increase job satisfaction, seek to improve open communication, information sharing, regular performance feedback, and inclusion in the workplace.³³ Many methods that the Navy uses to provide feedback on a member's performance are more focused on providing documentation on what they have done well in order to sell them as a viable member for advancement and or selection to selective or challenging billets. The main form of documented feedback a member will receive is a fitness report or what is referred to as a FITREP. These reports are endorsed and signed by their Commanding Officer (CO) which covers some basic information such as the member's name, unit, primary job, collateral jobs, and physical fitness evaluations. The next part of the FITREP comes in the form of the CO grading the member in categories such as military bearing, leadership, teamwork, and tactical performance. The meat of the matter comes in the form of the commander's comments on performance and promotion recommendations.

Ultimately, the issues with receiving a FITREP is they don't focus on what the member can or needs to improve upon. For the majority of members, the FITREP write up is originally generated by them, and then tweaked or modified by their chain of command, likely their department head, executive officer (XO), and CO. This write-up focuses on their achievements instead of deficiencies. The most formal form of input on personal and professional development comes in the form of a midterm evaluation. Even these fail to deliver as they are

generally led by the member's department head vice squadron leadership and can often involve the member submitting personal evaluations of themselves in the form of strengths and weaknesses to drive the discussion during the evaluation. This can lead to a "check in the box" feel to this evaluation and often does not provide a tangible effect on the member's understanding of areas they need to work on.

Every month the squadron will have what is called a Human Factors Board. The members of this meeting often include the CO, XO, department heads, training officers, a flight doctor, and one junior officer. In this meeting, they review one aircrew at a time to review performance, struggles, strengths, improvements, as well as any personal issues that could impact their ability to fly safely such as family stressors or outside priorities. While the purpose of this board is to identify potential safety issues before they can lead to a mishap, what is discussed in this environment is considered privileged. A similar format could provide unfiltered individualized feedback to each member on a more regular basis. Doing this quarterly would be a large improvement over the current midterm evaluation and FITREP system that will contribute to performance, job satisfaction, and workplace inclusion. Research by Eric LaCore agrees with this by stating "it is important to provide millennials with reinforcements such as clear guidelines, frequent and immediate feedback, mentoring, along with setting clear expectations."³⁴

Conclusions

With all this being said, the reality of trying to implement techniques, compensation, and efforts available in the civilian world is challenging due to the nature of being in military service.

George Reynolds states, “Focusing on “individualism” is a departure for military organizations that value self-sacrifice, teamwork, dedication, and selflessness.”³⁵ Simply put, sometimes the mission will have to take priority over personal desires, and individuals who sacrifice the later are highly desirable. George Reynolds also highlights several factors that drive the challenge of mission versus individualism such as inputs from congress, the chain of command, other services, and the fact that one process isn’t going to be the answer for the whole of the community.³⁶ However, when the operational demands of work up cycles, detachments, and deployments are not present, there needs to be additional focus on these efforts as it is vital to improving job satisfaction and quality of life to get back on target for pilot manning. This especially needs to be a focus of shore commands as the short window that a member is not deployable is their time to take a step back from the operational workloads experienced in their previous tours to refill their tank prior to having to make the decision to leave or stay in service.

Pilot retention in the name of meeting the operational demands without putting excess strain on the current force needs additional immediate attention. Continued focus in the production of newly trained and qualified pilots should remain a priority to help fill gaps that these strategies are unable to resolve. In the end, the drive should not just be to have enough qualified pilots, but to have the most talented pilots continue on through a complete career. Future commanding officers need to be the best the Navy has produced, and we can’t afford to let them leave due to challenges that can be overcome with small-scale changes. By improving professional and personal development opportunities, you are providing these talented individuals an avenue for continued growth and can encourage them to continue their service in the military and to this country.

Work-life balance and compensation is a complicated problem for military units and “Big Navy” to solve. It has many angles, inputs, and events that can have a sizeable effect on determining if a member will remain in service. When it comes to the fighter pilot community in the United States Navy, replacing the man in the box with automation or with remotely piloted platforms is not an available immediate solution, and keeping skilled, talented, and well-trained pilots and aircrew is pivotal for both near and far-term mission execution. One answer is not going to solve the problem, and based on the opportunities listed above, and more to adopt, there are multiple avenues of approach that can have a tangible positive effect on retention. Applying these principles to real-world experiences can potentially have enough relative low cost to high gain benefits.

APPENDIX A
ACRONYMS

BAH - Basic Allowance for Housing

BAS - Basic Allowance for Subsistence

BRS - Blended Retirement System

CO - Commanding Officer

FAC(A) - Forward Air Controller (Airborne)

FITREP - Fitness Report

FRS - Fleet Replacement Squadron

JO - Junior Officer

JPME - Joint Professional Military Education

PRD - Projected Rotation Date

TSP - Thrift Savings Plan

XO - Executive Officer

Notes

¹ Government Accountability Office, *Military Personnel – DOD Needs to Reevaluate Fighter Pilot Workforce Requirements* (Washington, DC: Government Accountability Office, 2018), 12, <https://www.gao.gov/products/GAO-18-113>

² Government Accountability Office, *Military Personnel – DOD Needs to Reevaluate Fighter Pilot Workforce Requirements* (Washington, DC: Government Accountability Office, 2018), 12-13, <https://www.gao.gov/products/GAO-18-113>

³ Future & Active Pilot Advisors, “Major Airline Pilot Hiring 2019 by Month” accessed November 10, 2020, <https://fapa.aero/hiringhistoryarchive.asp?year=2019>

⁴ Transportation Security Administration, “TSA checkpoint travel numbers(current year(s) versus prior year/same weekday)” accessed 15jan2020 <https://www.tsa.gov/coronavirus/passenger-throughput>

⁵ Sam Meredit, “Boeing CEO says a global pilot shortage is ‘one of the biggest challenges’ facing the airline industry” CNBC.com Jun 17, 2019, Accessed 15 jan2020 <https://www.cnbc.com/2019/06/17/boeing-ceo-says-global-pilot-shortage-is-one-of-the-biggest-challenges.html>

⁶ Michael L. Hansen, and Michael J. Moskowitz, *The Effect of Compensation on Aviator Retention*. Alexandria, VA: CNA, 2016. 34 https://www.cna.org/CNA_files/PDF/d0014925.a2.pdf

⁷ Department of Defense, “Retired Pay” <https://militarypay.defense.gov/Pay/Retirement/>

⁸ Department of Defense, “Retired Pay” <https://militarypay.defense.gov/Pay/Retirement/>

⁹ Department of Defense, “Retired Pay” <https://militarypay.defense.gov/Pay/Retirement/>

¹⁰ David Schulker and Tara L. Terry, *Evaluating the Impact of a Total Force Service Commitment Policy on Air Force Pilot Manning: An Exploratory Application of Inventory Modeling*. Santa Monica, CA: RAND Corporation, 2018. 2 https://www.rand.org/pubs/research_reports/RR2400.html.

¹¹ Brennan Randal, “The Army Needs a Better Solution for its Pilot Shortage,” MWI.USMA.EDU, Modern War Institute at West Point, June 25th, 2020, <https://mwi.usma.edu/army-needs-better-solution-pilot-shortage/>

¹² David Schulker and Tara L. Terry, *Evaluating the Impact of a Total Force Service Commitment Policy on Air Force Pilot Manning: An Exploratory Application of Inventory*

Modeling. Santa Monica, CA: RAND Corporation, 2018. 2
https://www.rand.org/pubs/research_reports/RR2400.html.

¹³ David Schulker and Tara L. Terry, Evaluating the Impact of a Total Force Service Commitment Policy on Air Force Pilot Manning: An Exploratory Application of Inventory Modeling. Santa Monica, CA: RAND Corporation, 2018. 25
https://www.rand.org/pubs/research_reports/RR2400.html.

¹⁴ Chief of Naval Operations, *Sea Shore Flow Enlisted Career Paths Update* NAVADMIN 274/19 December 2, 2019. <https://www.public.navy.mil/bupers-npc/reference/messages/Documents/NAVADMINS/NAV2019/NAV19274.txt>

¹⁵ Government Accountability Office, *Collecting Additional Data Could Enhance Pilot Retention Efforts* (Washington, DC: Government Accountability Office, 2018), 45, <https://www.gao.gov/products/GAO-18-439>

¹⁶ Mark C. Bolino and Anthony C. Klotz, “Do You Really Know Why Employees Leave Your Company?” *Harvard Business Review* (July 2019) , <https://hbr.org/2019/07/do-you-really-know-why-employees-leave-your-company>

¹⁷ Mark C. Bolino and Anthony C. Klotz, “Do You Really Know Why Employees Leave Your Company?” *Harvard Business Review* (July 2019) , <https://hbr.org/2019/07/do-you-really-know-why-employees-leave-your-company>

¹⁸ Mark C. Bolino and Anthony C. Klotz, “Do You Really Know Why Employees Leave Your Company?” *Harvard Business Review* (July 2019) , <https://hbr.org/2019/07/do-you-really-know-why-employees-leave-your-company>

¹⁹ Angus Deaton and Daniel Kahneman, “High income improves evaluation of life but not emotional well-being,” *Proceedings of the National Academy of Sciences of the United States of America* (September, 2010), 1, <https://www.pnas.org/content/107/38/16489>

²⁰ U.S. Bureau of Labor Statistics “CPI Inflation Calculator” accessed November 10, 2020, https://www.bls.gov/data/inflation_calculator.htm

²¹ U.S. Department of Veterans Affairs “ Transfer your Post-9/11 GI Bill benefits” accessed March 28, 2021, <https://www.va.gov/education/transfer-post-9-11-gi-bill-benefits/>

²² The President’s Commission on an All-Volunteer Armed Force, “The Report of the President’s Commission on an All-Volunteer Armed Force,” (Washington, DC: Government Printing Office, 1970), 16-17.
<https://www.rand.org/content/dam/rand/pubs/monographs/MG265/images/webS0243.pdf>

- ²³ Michael L. Hansen, and Michael J. Moskowitz, *The Effect of Compensation on Aviator Retention*. Alexandria, VA: CNA, 2016. 34
https://www.cna.org/CNA_files/PDF/d0014925.a2.pdf
- ²⁴ Defense Finance and Accounting Service, *Monthly Rates of Basic Pay (Commissioned Officer) – effective January 1, 2020*
<https://www.dfas.mil/MilitaryMembers/payentitlements/Pay-Tables/Basic-Pay/CO/>
- ²⁵ Defense Finance and Accounting Service, *Monthly Rates of Basic Pay (Commissioned Officer) – effective January 1, 2020*
<https://www.dfas.mil/MilitaryMembers/payentitlements/Pay-Tables/Basic-Pay/CO/>
- ²⁶ Secretary of the Navy, *Aviation Department Head Retention Bonus Program Information: Officers Selected for Lieutenant Commander to be Considered in the Fiscal Year 2021 Aviation Department Head Screen Board*. March 19, 2018, 3, <https://www.public.navy.mil/bupers-npc/officer/Detailing/aviation/OCM/Documents/FY20%20ADHRB%20Program%20Information.pdf>
- ²⁷ Gerard Nathan. “Millennial Managers: Exploring the Next Generation of Talent.” *Leadership in Health Services* 32, no. 3 (2019), 366, doi:<http://dx.doi.org.lomc.idm.oclc.org/10.1108/LHS-01-2018-0004>.
- ²⁸ Jose-Luis Rodriguez-Sanchez et al, “Investing Time and Resources for Work-Life Balance: The Effect on Talent Retention,” *International Journal of Environmental Research and Public Health* 17.6 (2020), 1920, doi:<http://dx.doi.org.lomc.idm.oclc.org/10.3390/ijerph17061920>.
- ²⁹ Andrew Chamberlain, “What Matters More to Your Workforce than Money” *Harvard Business Review* (January 2017), 3, <https://hbr.org/2017/01/what-matters-more-to-your-workforce-than-money?registration=success>
- ³⁰ Daisy Wademan Dowling, “Your Company Needs a Better Retention Plan for Working Parents” *Harvard Business Review*(February 2019), 3, <https://hbr.org/2019/02/your-company-needs-a-better-retention-plan-for-working-parents>
- ³¹ US Chamber of Commerce Foundation, *Military Spouses in the Workplace*, (Washington, DC, 2017) 14.
<https://www.uschamberfoundation.org/sites/default/files/Military%20Spouses%20in%20the%20Workplace.pdf>
- ³² Karen K. Myers, and Kamyab Sadaghiani. "Millennials in the Workplace: A Communication Perspective on Millennials' Organizational Relationships and Performance." *Journal of Business and Psychology* 25, no. 2 (06, 2010): 228.
doi:<http://dx.doi.org.lomc.idm.oclc.org/10.1007/s10869-010-9172-7>.

³³ Karen K. Myers, and Kamyab Sadaghiani. "Millennials in the Workplace: A Communication Perspective on Millennials' Organizational Relationships and Performance." *Journal of Business and Psychology* 25, no. 2 (06, 2010): 229.

doi:<http://dx.doi.org.lomc.idm.oclc.org/10.1007/s10869-010-9172-7>.

³⁴ Eric LaCore. "Supporting Millennials in the Workplace." *Strategic HR Review* 14, no. 4 (2015): 156. doi:<http://dx.doi.org.lomc.idm.oclc.org/10.1108/SHR-06-2015-0046>.

³⁵ George M. Reynolds, USAF, "What do People Want from Work?: The Simple Question that can Transform Unit Engagement and Retention." *Air & Space Power Journal* 33, no. 1 (Spring 2019), 7, https://www.airuniversity.af.edu/Portals/10/ASPJ/journals/Volume-33_Issue-1/SLP-Reynolds.pdf

³⁶ George M. Reynolds, USAF, "What do People Want from Work?: The Simple Question that can Transform Unit Engagement and Retention." *Air & Space Power Journal* 33, no. 1 (Spring 2019), 12, https://www.airuniversity.af.edu/Portals/10/ASPJ/journals/Volume-33_Issue-1/SLP-Reynolds.pdf.

Bibliography

Bolino, Mark C. and Klotz, Anthony C. "Do You Really Know Why Employees Leave Your Company?" *Harvard Business Review* (July 2019) , <https://hbr.org/2019/07/do-you-really-know-why-employees-leave-your-company>

Chamberlain, Andrew, "What Matters More to Your Workforce than Money" *Harvard Business Review* (January 2017), <https://hbr.org/2017/01/what-matters-more-to-your-workforce-than-money?registration=success>

Chief of Naval Operations, *Sea Shore Flow Enlisted Career Paths Update* NAVADMIN 274/19 December 2, 2019. <https://www.public.navy.mil/bupers-npc/reference/messages/Documents/NAVADMINS/NAV2019/NAV19274.txt>

Deaton, Angus and Kahneman, Daniel, "High income improves evaluation of life but not emotional well-being," *Proceedings of the National Academy of Sciences of the United States of America* (September, 2010), 1, <https://www.pnas.org/content/107/38/16489>

Dowling, Daisy W., "Your Company Needs a Better Retention Plan for Working Parents" *Harvard Business Review*(February 2019), 3, <https://hbr.org/2019/02/your-company-needs-a-better-retention-plan-for-working-parents>

Hansen, Michael L. and Moskowitz, Michael J. *The Effect of Compensation on Aviator Retention*. Alexandria, VA: CNA, 2016. 34
https://www.cna.org/CNA_files/PDF/d0014925.a2.pdf

LaCore, Eric. "Supporting Millennials in the Workplace." *Strategic HR Review* 14, no. 4 (2015): 155-157. doi:http://dx.doi.org.lomc.idm.oclc.org/10.1108/SHR-06-2015-0046. <https://search-proquest-com.lomc.idm.oclc.org/scholarly-journals/supporting-millennials-workplace/docview/1714455723/se-2?accountid=14746>.

Myers, Karen K. and Kamyab Sadaghiani. "Millennials in the Workplace: A Communication Perspective on Millennials' Organizational Relationships and Performance." *Journal of Business and Psychology* 25, no. 2 (06, 2010). doi:http://dx.doi.org.lomc.idm.oclc.org/10.1007/s10869-010-9172-7.

Nathan, Gerard. "Millennial Managers: Exploring the Next Generation of Talent." *Leadership in Health Services* 32, no. 3 (2019), doi:http://dx.doi.org.lomc.idm.oclc.org/10.1108/LHS-01-2018-0004.

Randal, Brennan, "The Army Needs a Better Solution for its Pilot Shortage," MWI.USMA.EDU, Modern War Institute at West Point, June 25th, 2020, <https://mwi.usma.edu/army-needs-better-solution-pilot-shortage/>

Reynolds, George M. USAF, “What do People Want from Work?: The Simple Question that can Transform Unit Engagement and Retention.” *Air & Space Power Journal* 33, no. 1 (Spring 2019), https://www.airuniversity.af.edu/Portals/10/ASPJ/journals/Volume-33_Issue-1/SLP-Reynolds.pdf.

Rodriguez-Sanchez, Jose-Luis et al, “Investing Time and Resources for Work-Life Balance: The Effect on Talent Retention,” *International Journal of Environmental Research and Public Health* 17.6 (2020), doi:http://dx.doi.org.lomc.idm.oclc.org/10.3390/ijerph17061920.

Schulker, David and Tara L. Terry, Evaluating the Impact of a Total Force Service Commitment Policy on Air Force Pilot Manning: An Exploratory Application of Inventory Modeling. Santa Monica, CA: RAND Corporation, 2018.
https://www.rand.org/pubs/research_reports/RR2400.html.

Secretary of the Navy, *Aviation Department Head Retention Bonus Program Information: Officers Selected for Lieutenant Commander to be Considered in the Fiscal Year 2021 Aviation Department Head Screen Board*. March 19, 2018, 3, <https://www.public.navy.mil/bupers-npc/officer/Detailing/aviation/OCM/Documents/FY20%20ADHRB%20Program%20Information.pdf>

The President’s Commission on an All-Volunteer Armed Force, “The Report of the President’s Commission on an All-Volunteer Armed Force,” (Washington, DC: Government Printing Office, 1970),
<https://www.rand.org/content/dam/rand/pubs/monographs/MG265/images/webS0243.pdf>

US Chamber of Commerce Foundation, *Military Spouses in the Workplace*, Washington, DC, 2017.
<https://www.uschamberfoundation.org/sites/default/files/Military%20Spouses%20in%20the%20Workplace.pdf>

US Government Accountability Office, *Collecting Additional Data Could Enhance Pilot Retention Efforts*. Washington, DC: Government Accountability Office, 2018.
<https://www.gao.gov/products/GAO-18-439>

US Government Accountability Office, *Military Personnel – DOD Needs to Reevaluate Fighter Pilot Workforce Requirements*. Washington, DC: Government Accountability Office, 2018.
<https://www.gao.gov/products/GAO-18-113>